Abstract of the Disclosure

A nuclear fuel assembly having a parallel array of elongated fuel elements supported between an upper and lower nozzle. Main support grids are substantially evenly spaced along the elongated dimension of the assembly to maintain the spacing between fuel elements. A plurality of auxiliary vibration-resistant grids respectively positioned between the main support grids in the middle third elongated dimension of the fuel elements, that are smaller in height and provide a larger fuel element contact area than the main support grids.